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0072103

07-SED-0128

FEB 07 2007

Mr. John J. Martell, Manager
Radioactive Air Emissions Section
State of Washington
Department of Health
Office of Radiation Protection
Post Office Box 47827
Olympia, Washington 98504-7827

RECEIVED
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EDMC

Dear Mr. Martell:

REQUEST FOR ALTERNATE MONITORING APPROVAL FOR THE 291-Z-1 STACK, PLUTONIUM FINISHING PLANT, 200 WEST AREA, HANFORD SITE

The purpose of this letter is to request an alternate monitoring approval for the 291-Z-1 Stack, located at the Plutonium Finishing Plant, as outlined in the Enclosure. This request is pursuant to Section 2.4(3) of the Hanford Site Radioactive Air Emissions Federal Facility License #FF-01, and Chapter 246-247-075 Washington Administrative Code. RL and Contractors discussed the alternate monitoring request with the State of Washington, Department of Health (WDOH) on February 2, 2007. At that time, WDOH indicated the proposed approach was acceptable for their consideration.

The alternate monitoring is necessary to preserve the integrity of the current monitoring and sampling systems, as higher than normal volumes of test aerosols will be introduced upstream of the system as part of an evaluation of the filter rooms. The alternative method involves the short-term use of an existing, but currently out-of-service, sample extraction probe assembly at the base of the stack. Operation of this older system was previously addressed with WDOH at a Routine Technical Assistance Meeting on January 9, 2001, and documented in meeting minutes. The older sample extraction probe assembly system has demonstrated reasonable detection capability adequate for short-term use.

If you have any questions, please contact me, or your staff my contact Doug S. Shoop, Assistant Manager for Safety and Engineering, on (509) 376-0108.

Sincerely,

Keith A. Klein
Manager

SED:MFJ

Enclosure

cc w/encl: See page 2

J. A. Bates, FHI
T. G. Beam, FHI
R. Bond, Ecology
R. L. Bloom, FHI
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S. L. Clark, WDOH
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M. T. Jansky, FHI
R. Jim, YN
J. L. Nuzum, FHI
R. W. Oldham, FHI
K. A. Peterson, FHI
J. Schmidt, WDOH, MSIN B1-42
O. S. Wang, Ecology
D. Zhen, EPA Region 10 (Seattle, WA.)
Environmental Portal, LMSI
Administrative Record (PFP NOC ID #644)

ENCLOSURE

Alternate Monitoring Request for the 291-Z-1 Stack, Plutonium Finishing Plant, 200 West Area, Hanford Site

Background

Continuous monitoring is a license requirement for the Emission Unit ID 393, the 291-Z-1 stack at the Plutonium Finishing Plant (PFP) which is categorized as a major stack. Normally the continuous sample extraction at the 291-Z-1 stack is accomplished using an installed shrouded probe located at the 50-foot level. The operation of the probe and future accurate sample collection could be negatively impacted if sufficient oil-based test aerosol concentrations were present. Due to planned activities which will release higher than normal amounts of test aerosol upstream of the sample system, it will not be practical to operate the sample unit during periods that the introduction of the aerosol into the system is in sufficient volume to impact the unit.

Scope of Request

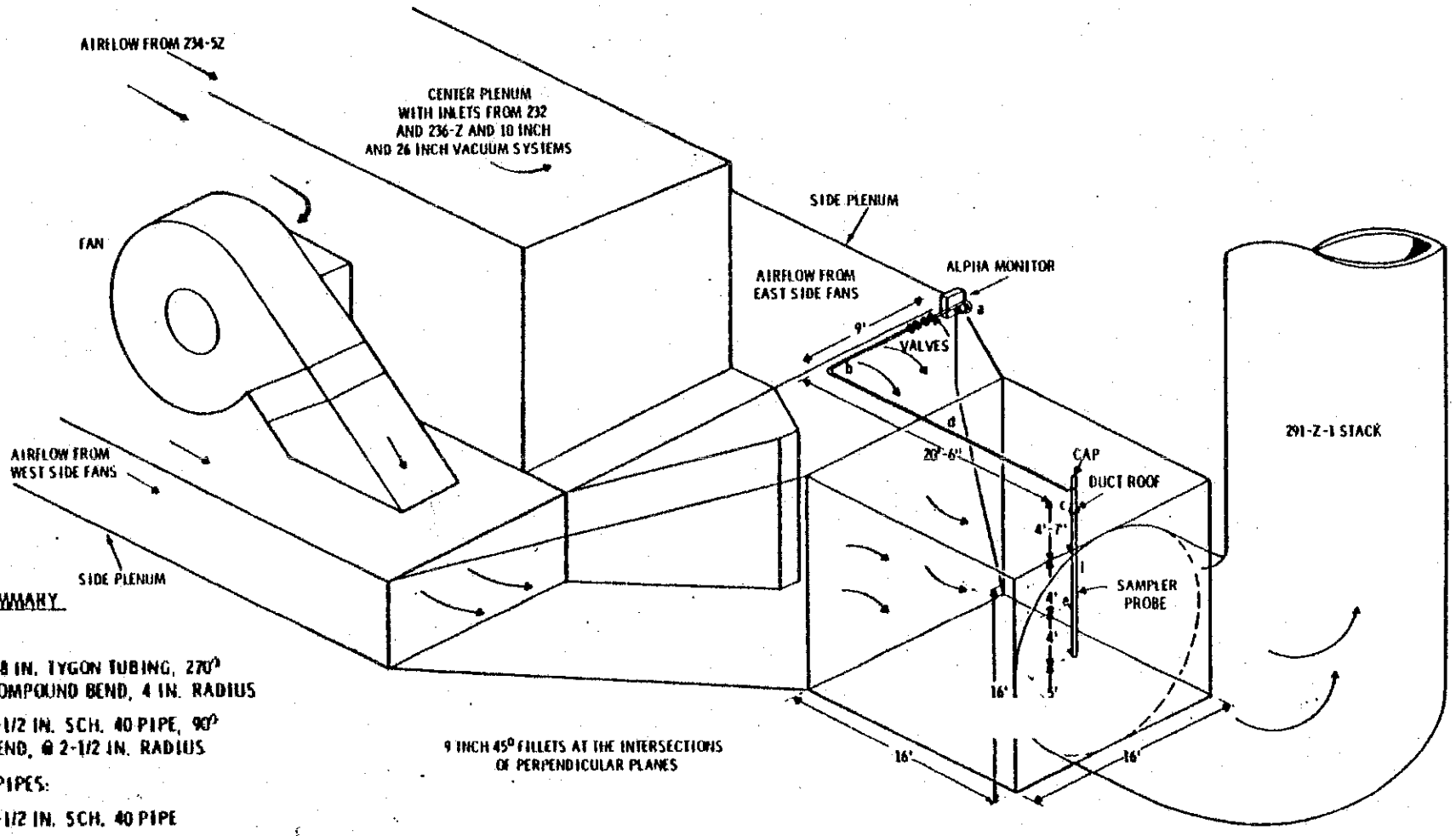
For intervals of less than a total duration of 24 hours per 2 week period, alternate approval for short term use of an existing, but currently out-of-service, sample collection probe is requested. The probe is located at the outlet plenum from the 291-Z building just prior to the elbow for the stack (see Figure 1). This request is made in accordance with the Hanford Site Radioactive Air Emissions License Section 2.4(3) and the WAC 246-247-075(1) and (3) sections. The alternate monitoring will not be used for sample collection but rather to confirm no significant transients occur in the system when utilizing a temporary continuous air monitor while the normal stack shrouded sample probe is out of service. The system will be put in place and checked for proper operation for at least 24 hours prior to securing the normal sample flow and plant operations involving glovebox activities and fissile material moves would be restricted while the sampler is secured.

The current stack sampler (i.e., shrouded probe at the 50-foot level) will be returned to service in a timely manner when the aerosol testing is completed and the aerosol has dispersed from the vent system. It is anticipated that the alternate monitoring system may be relied upon for more than once in a two week period, but the normal sample flow to the shrouded probe will not be secured for more than a total of 24 hours in any two week sampling.

Justification

Due to the current nature of activities within PFP, there is currently very little variation in stack effluent. Short term suspension of operation of the continuous sampling system is not anticipated to result in under-reporting of emissions due to conservatisms built into the method of reporting. The proposed alternate monitoring documented herein would provide adequate monitoring and sample in the event of unexpected changes in effluent that could affect reporting. This sample extraction system has been used historically for monitoring and reporting of emissions from PFP. The sample system had been judged to be potentially inaccurate from a reporting stand point due to not being located in an optimum sampling location and being nonisokenetic. Even with these shortcomings, it has been demonstrated to be responsive to changes in effluent activity.

This installation and performance information was discussed on January 9, 2001 during a Routine Technical Assistance Meeting with Department of Health personnel (Meeting Minutes, FH, RL, and WDOH to Distribution, FH-0102803, "Routine Technical Assistance Meeting Minutes – January 9, 2001, with WDOH/DOE-RL/DOE-ORP/PHMC/PNNL/BHI)." Testing at that time showed relatively good correlation between the data collected by the proposed sampler (at the stack base) and the old rake stack sampler (at the 50-foot level) which was replaced in 2002 with the current shrouded probe sampler.



PIPING SUMMARY

BENDS:

- a - 3/8 IN. TYGON TUBING, 270° COMPOUND BEND, 4 IN. RADIUS
- b,c - 1-1/2 IN. SCH. 40 PIPE, 90° BEND, @ 2-1/2 IN. RADIUS

STRAIGHT PIPES:

- d - 1-1/2 IN. SCH. 40 PIPE
- f - 4 IN. SCH. 40 PIPE

NOZZLES:

- a - 2 IN. PIPE NIPPLES

FIGURE 1. Diagram of 291-Z-1 Stack Sampling System